

**SOIL MITIGATION PLAN**

Commercial Property  
1979 & 1985 Mission Street and  
2950, 2960, 2970, & 2978 16th Street  
San Francisco, California 94103

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Commercial Property  
1979 & 1985 Mission Street and  
2950, 2960, 2970, & 2978 16th Street  
San Francisco, California 94103

prepared for

**Maximus-BP 1979 Mission Street LLC**  
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San Francisco, California 94132

prepared by

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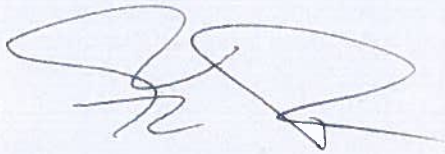


STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

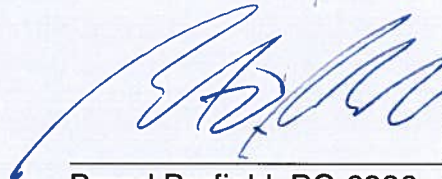
Information provided in this Soil Mitigation Plan (SMP), prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Maximus-BP 1979 Mission Street LLC for the characterization and disposal of contaminated soil as they pertain to the subject site. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all subsurface investigations, there is no guarantee that the work proposed will identify any or all sources or locations of contamination.

This SMP is issued with the understanding that of Maximus-BP 1979 Mission Street LLC is responsible for ensuring that the information contained herein is brought to the attention of the appropriate regulatory agency. This SMP has been reviewed by a geologist who is registered in the State of California and whose signature and license number appears below.

**PROFESSIONAL SERVICE INDUSTRIES, INC.**



Frank R. Poss  
Principal Consultant



Brand Burfield, PG 6986  
Geologist



## **1.0 INTRODUCTION**

Professional Service Industries, Inc. (PSI) has been retained to prepare this Soil Mitigation Plan (SMP) for the site at 1979 Mission Street in San Francisco, San Francisco County, California (subject site; Figure 1).

### **1.1 PLAN OBJECTIVE**

The purpose of the SMP is to designate a set of requirements for the proper characterization, handling and disposal of soil generated during site construction activities.

### **1.2 SITE DESCRIPTION**

The subject property is located on the north side of 16th Street bounded on the west by Mission Street and on the east by Capp Street. The subject property site addresses include 1979 & 1985 Mission Street and 2950, 2960, 2970, & 2978 16th Street, San Francisco, California. The site can also be defined as San Francisco County Assessor Parcel Number 3553-052.

The subject property is about 1.3 acres in plan area and is developed with two buildings. The building located along Mission Street is occupied by a Walgreens Drug Store and is one story with a mezzanine. The second building located along 16th Street, is occupied by four tenants, Burger King HWA Lei Market, Mission Hunan Restaurant, and the City Club, which operates as a bar. Additionally, the northern portion of the building was formerly occupied by a One Dollar One Store. Each of the units have mezzanines with the exception of the City Club.

A basement runs beneath a significant portion of the multi-tenant building along 16<sup>th</sup> Street. Not all of the units have access to the basement, which contains numerous rooms. The basement is used as storage by HWA Lei Market. According to Mr. Craig Jang, property owner, he believed that the basement was constructed into its present configuration at the time of the redevelopment of the property in the late 1960s.

PSI understands that the current buildings are to be removed and a subterranean parking garage is scheduled to be built across the entirety of the property prior to future development.

### **1.3 ENVIRONMENTAL INVESTIGATIONS**

During the course of a Phase I Environmental Site Assessment (ESA) for the site completed by PSI in January 2013, PSI determined that the subject property was underlain by imported fill. Fill impacted with lead and polynuclear aromatic (PNA) contamination is common within the City of San Francisco; therefore, a subsurface investigation was conducted to determine whether soil at the property has elevated concentrations of lead and/or PNAs. Additionally, due to historical onsite dry cleaners

and gas stations in the site vicinity, total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPH-G, TPH-D, and TPH-M), as well as Volatile Organic Compounds (VOCs) were also evaluated.

On January 7, 2013, three (3) soil borings (B-1 through B-3) were advanced at the subject site. The borings were completed by Cascade Drilling using a truck-mounted, direct-push, continuous-core drill rig under the supervision of Mr. Stephen Ramos, Staff Engineer with PSI. According to a geotechnical investigation conducted on the property on January 2013, the upper 10 feet of soil consisted of fill. The borings locations were spread across the current parking lot (See Figure 2). Soil samples were collected from each boring at one foot below ground surface (bgs) and 5-foot intervals to the total depth explored of 20 feet bgs. The subsurface materials encountered consisted primarily of silty sand (SM) and sand (SP) with interbedded layers of clayey sand (SC) found in B-1 and clayey silt (ML) found in B-3 to 20 feet bgs. Groundwater was encountered at approximately 8 feet bgs.

The soil samples from borings B-1 through B-3, collected at 1, 5, 10, 15, and 20 feet bgs, were composited laterally based on depth, resulting in five soil samples for analyses. Analysis of the soil indicates the following;

- Barium, Chromium, Cobalt, Copper, Nickel, Vanadium, and Zinc were all detected above their laboratory reporting limit in all five composite samples with maximum concentrations of 320 milligrams per kilogram (mg/kg), 56 mg/kg, 11 mg/kg, 39 mg/kg, 52 mg/kg, 46 mg/kg and 260 mg/kg, respectively. Lead was only detected above its laboratory reporting limit in the three samples from the upper 11 feet with a maximum concentration of 550 mg/kg.
- TPH-G and TPH-D were not detected at or above their laboratory reporting limit in any of the composite soil samples.
- TPH-MO was only detected above their laboratory reporting limit from the one foot composite sample at a concentration of 29 mg/kg.
- No VOCs were detected at or above its laboratory reporting limit in any of the composite samples.

PSI compared the detected concentrations of Barium, Chromium, Cobalt, Copper, Lead, Nickel, Vanadium, Zinc, Mercury and TPH-MO with their respective Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for residential sites where groundwater is a non-drinking water resource. All of the detected contaminants and compounds were at concentrations below their respective ESL with the exception of lead in the composite soil sample collected from one-foot bgs and vanadium in all of the composite soil samples. A summary of the laboratory test results for the soil analysis is presented in Tables 1 and 2.

Based on our extensive sampling experience in the City of San Francisco, the vanadium concentrations are typical of background concentrations found throughout this area and are not considered to be an environmental concern.

The results of the soil analyses for metals were also compared to California Code of Regulations Title 22 List of Inorganic, Persistent, and Bioaccumulative Toxic Substances and their soluble threshold limit concentrations (STLC) and total threshold limit concentrations (TTLC) Values. None of the soil samples had a concentration greater than their respective TTLC.

Lead was the only metal detected at a concentration above the screening criteria of ten times their respective STLC. The only sample with lead above this screening criteria was the one-foot bgs composite sample with a total lead concentration of 550 mg/kg.

Based on the results of the laboratory testing, PSI had each of the soil samples collected from 1 foot bgs analyzed individually for lead. The results of the individual analyses for lead indicated that none of the lead concentrations were greater than the TTLC of lead. Each of the individual samples were also analyzed using a Waste Extraction Test (WET) to determine the soluble lead concentration. The results of the WET indicated that the 1-foot sample from B-3 had a lead concentration greater than the STLC and, upon excavation and designation as a waste material, the soil represented by sample B-3-1 would be considered a hazardous waste by the State of California.

Based on the results of the soil sampling conducted at the site, lead was determined to be the contaminant of concern.

## **2.0 SOIL EXCAVATION**

PSI understands that further characterization of the soil to adequately assess the lead distribution laterally and vertically at the site will be performed once demolition of the buildings at the site has been completed. If additional characterization is completed, PSI recommends that an updated SMP be completed with the results of the additional characterization and possible changes to the segregation and sampling protocol. PSI recommends that any updated SMP be reviewed and approved by the SFDPH.

The following are the requirements and stipulations associated with the excavation of material at the site related to the environmental factors.

- Segregate soil from the upper 5.0 feet of the site into separate stockpiles from soils generated from below 5.0 feet.
- Any soils with olfactory or visual evidence of petroleum hydrocarbons should be segregated from other soils at the site.
- Designate an on-site stockpile location, which does not pose a health threat to the public or on-site personnel.
- Place soil on polyethylene sheeting to prevent mixing with surface soils.
- If stockpiling of the waste is not deemed to be feasible due to the size restrictions of the site, soil generated from the upper 5 feet can be removed as a State of California hazardous waste without any profiling. Additional cost for removing the soil as a waste would incur.

For characterization of the stockpiles, the following procedures need to be followed.

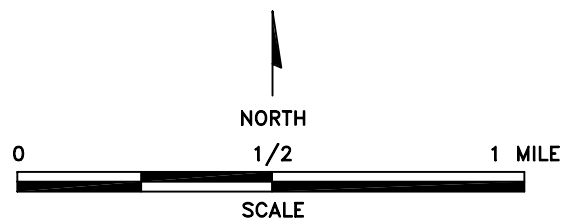
- Collect soil samples in a quantity as required by the selected disposal site. Analyze the soil samples as required by the disposal site.
- For lead characterization, soil sampling should be completed at a minimum of 1 sample per 100 cubic yards. The soil sample for lead analyses shall be a field composite with a minimum of 4 points of collection. Soil samples should be labeled to identify the stockpile and section number.
- Soil samples should be analyzed by a State of California licensed laboratory for total lead concentrations using EPA Method 6010. Based on the laboratory results, further testing of soluble lead concentrations may be required.
- Once characterization of a stockpile is ongoing, no soil should be added to or removed from the stockpile being characterized, prior to disposal.
- Provide a copy of all sample collection forms, sample data, etc. at the completion of the Work in Project Closeout documents.




At the completion of stockpile characterization, individual sections of the soil stockpiles can be transported to an appropriate landfill. If soil-stockpile testing indicates that the soil is a State of California hazardous waste, the following procedures need to be followed.

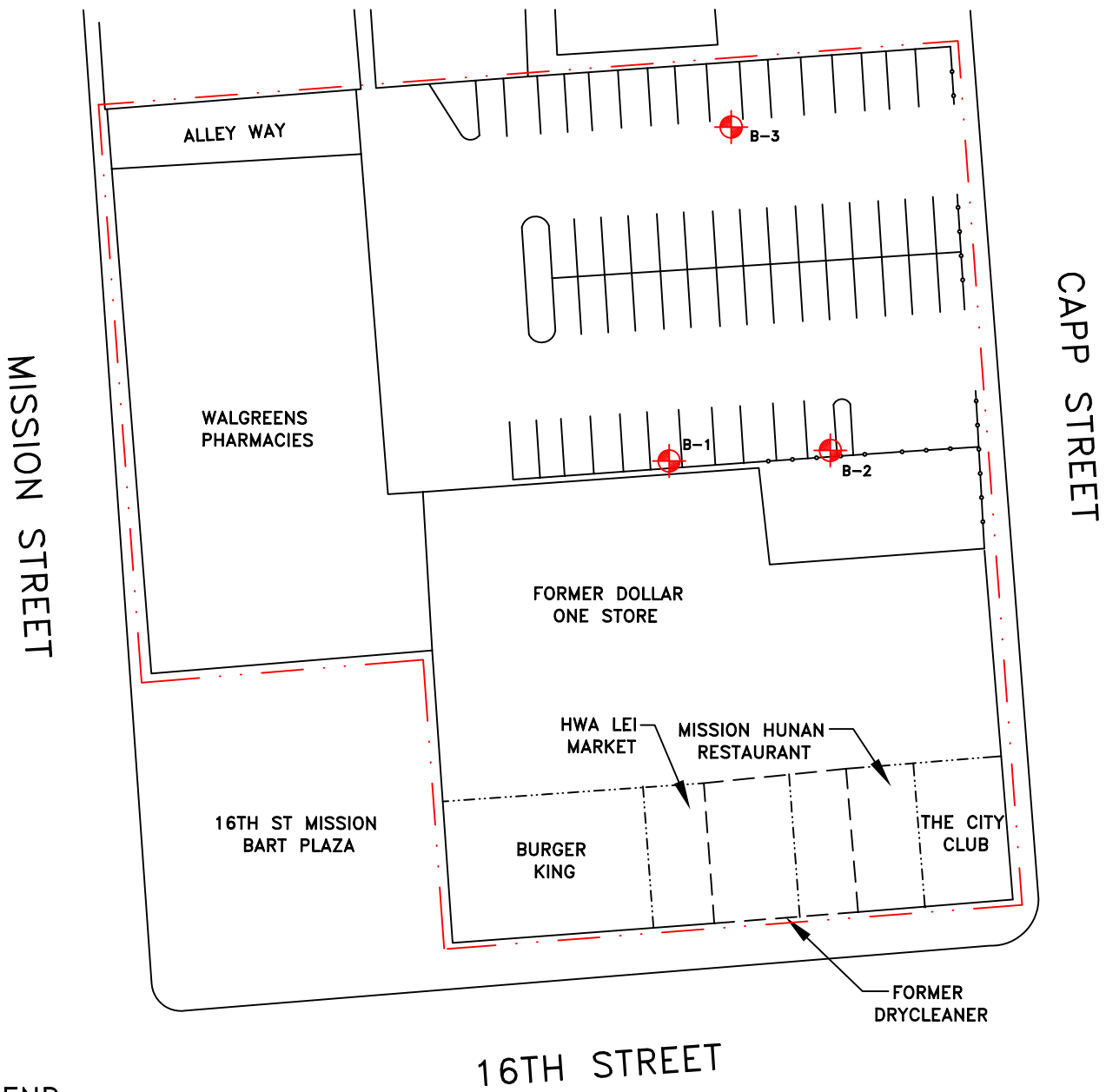
- Comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A, 7/92, and EPA 8700-22), for all packing, labeling, transporting, and disposing of hazardous waste.
- Applicable information to be included in the “Waste Manifest” includes the following:
  - EPA Generator ID Number
  - Generator’s Name and Address.
  - Generator Tax ID Number.
- At least 48 hours prior to off-site transportation of any contaminated soil, provide written notice to San Francisco Department of Public Health Department (SFDPH) with the following information: the time that the transporter will be on site to collect the materials; the destination of the materials; the classification of the materials; the stockpile number from which the material was collected; and a copy of the manifest which the owner/owner representative will need to sign.
- Transportation shall be by a California Department of Health Services (DOHS)-licensed waste hauler.

## FIGURES



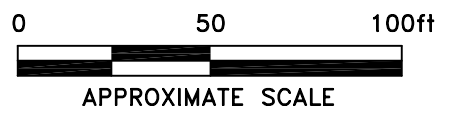
**REFERENCE:**  
 U.S.G.S. SAN FRANCISCO  
 NORTH, CALIFORNIA, 7.5  
 MINUTE SERIES  
 TOPOGRAPHIC MAP,  
 DATED 1995.

 <b>Information To Build On</b> <i>Engineering • Consulting • Testing</i>		4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200			
<b>Project Name:</b> COMMERCIAL PROPERTY 1979 & 1985 MISSION STREET AND 2950, 2960 2970, & 2978 16TH STREET, SAN FRANCISCO, CA		<b>Drawn By:</b> S.R.	<b>Date:</b> 1/13	<b>File No.:</b> 525-1-1	<b>Figure No.:</b>  <span style="font-size: 2em;">1</span>
<b>Title:</b> SITE LOCATION MAP		<b>Approved By:</b> F.P.	<b>Project No.:</b> 575-525-1		



**LEGEND**

- SUBJECT PROPERTY BOUNDARY
- FENCE LINE
- PROPERTY DIVIDER LINE
- APPROXIMATE GEOPROBE BORING LOCATION (1/7/13)



**NOTES**

1. BASE MAP TAKEN FROM GOOGLE AERIAL PHOTOGRAPH, DATED 10/31/2011.
2. LOCATIONS ARE APPROXIMATE.
3. SOIL VAPOR SAMPLES TAKEN WITHIN THE BASEMENT OF THE STRUCTURE.

<b>Information To Build On</b> <i>Engineering • Consulting • Testing</i>		4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200			
<b>Project Name:</b> COMMERCIAL PROPERTY 1979 & 1985 MISSION STREET AND 2950, 2960 2970, & 2978 16TH STREET, SAN FRANCISCO, CA		<b>Drawn By:</b> R.D.	<b>Date:</b> 6/13	<b>File No.:</b> 584-1-2	<b>2</b>
<b>Title:</b> SITE PLAN AND SAMPLING LOCATION MAP		<b>Approved By:</b> F.P.	<b>Project No.:</b> 575-584-1		

## TABLES

**TABLE 1**  
**SUMMARY OF ANALYTICAL RESULTS (METALS)**  
**Commercial Structures**

1979 & 1985 Mission Street and 2950, 2960, 2970 & 2978 16th Street, San Francisco, California

SAMPLE NUMBER	SAMPLE MATRIX	DEPTH SAMPLED (FEET)	Barium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury
Composite B-(1-3)-1.0	Soil	1	320	37	7.2	39	550	28	30	260	0.38
Composite B-(1-3)-5.0	Soil	5	37	23	3.8	2.6	31	26	18	25	<0.10
Composite B-(1-3)-10.0 & 11.0	Soil	10	75	29	5.6	7.4	12	23	24	16	<0.10
Composite B-(1-3)-15.0	Soil	15	37	56	6.0	11	<3.0	42	29	43	<0.10
Composite B-(1-3)-20.0	Soil	20	26	51	11	7.6	<3.0	52	46	45	<0.10
B-1-1	Soil	1	---	---	---	---	3.0 (0.1)	---	---	---	---
B-2-1	Soil	1	---	---	---	---	160 (1.9)	---	---	---	---
B-3-1	Soil	1	---	---	---	---	840 (5.8)	---	---	---	---

**Notes:** Analytical results are reported as total concentration in milligrams per kilogram (mg/kg) with the exception of those in ( )  
Analytical results for water are reported as total concentration in milligrams per liter (µg/L)  
(1.3) = Soluble concentration after the performance of a Waste Extraction Test (WET) and presented in milligrams per liter (mg/L)  
< = not detected at presented laboratory reporting limit.  
"---" = Not Analyzed  
All other metals are below laboratory reporting limits  
Soil samples were collected on 1/7/2013

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS (TPH and VOCs)**  
**Commercial Structures**  
**1979 & 1985 Mission Street and 2950, 2960, 2970 & 2978 16th Street, San Francisco, California**

SAMPLE NUMBER	SAMPLE MATRIX	DEPTH SAMPLED (FEET)	TPH - GASOLINE	TPH - DIESEL	TPH - MOTOR OIL	Volatile Organic Compounds (VOCs)	Polynuclear Aromatics (PNAs)
Composite B-(1-3)-1.0	Soil	1	<10	<10	29	ND	ND
Composite B-(1-3)-5.0	Soil	5	<10	<10	<10	ND	ND
Composite B-(1-3)-10.0 & 11.0	Soil	10	<10	<10	<10	ND	ND
Composite B-(1-3)-15.0	Soil	15	<10	<10	<10	ND	ND
Composite B-(1-3)-20.0	Soil	20	<10	<10	<10	ND	ND

**Notes:** Analytical results for soil are reported as total concentration in milligrams per kilogram (mg/kg)

< = not detected at presented laboratory reporting limit.

ND = Not detected at laboratory reporting limit presented in Appendix D.

All other VOCs are below laboratory reporting limits

Soil samples were collected on 1/7/2013

TPH = Total Petroleum Hydrocarbons